Inservicing Best Practices

• Schedule inservice with physician and nursing staff the day prior to cases if possible.
• If the account currently uses G-Probe, show both demo probes to differentiate the two probes. Show the treatment video for further emphasis.
• Discuss MP3 laser parameters with physician referencing “Summary of MP3 Dosing in the Literature” (next slides)
  • Show how to setup presets in the G6 console
## Summary of MP3 Dosing in the Literature

<table>
<thead>
<tr>
<th>Clinical Work</th>
<th>Laser Time</th>
<th>Laser Power</th>
<th>MicroPulse Duty Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 &amp; 2014 controlled, randomized studies @ NUHS, Singapore, Dr. Paul Chew&lt;sup&gt;1,2&lt;/sup&gt;</td>
<td>50s per hemisphere (100s total)</td>
<td>2000 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
</tr>
<tr>
<td>AGS 2015, Drs. Radcliffe, Noecker, Ahmed, Vold, Khatana, Kammer, Parekh&lt;sup&gt;3&lt;/sup&gt;</td>
<td>50 - 90s per hemisphere (100 - 180s total)</td>
<td>2000 – 2250 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
</tr>
<tr>
<td>AGS 2015 abstract&lt;sup&gt;4&lt;/sup&gt;, Peer-reviewed 2016&lt;sup&gt;5&lt;/sup&gt;, Wills Eye Hospital, Dr. Marlene Moster</td>
<td>50 - 120s per hemisphere (100 - 240s total)</td>
<td>2000 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
</tr>
<tr>
<td>Ongoing Prospective Pilot Study initial results, AGS 2016, Wills Eye Hospital, Dr. Marlene Moster&lt;sup&gt;6&lt;/sup&gt;</td>
<td>90 - 180s per hemisphere (180 - 360s total)</td>
<td>2000 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
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## Summary of MP3 Dosing in the Literature

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<tr>
<td>Anatomical effects, AGS 2016, Dr. Shan Lin, UCSF(^7)</td>
<td>80s per hemisphere (160s total)</td>
<td>2000 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
</tr>
<tr>
<td>Histopathological study TSCPC vs mTSCPC, AGS 2016 Dr. Robert Noecker, Yale Univ.(^8)</td>
<td>90s per hemisphere (180s total)</td>
<td>2000 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
</tr>
<tr>
<td>1 year, 45 patient follow-up study, ARVO 2016, Dr. Robert Noecker, Yale Univ.(^9)</td>
<td>70 - 90s per hemisphere (140 - 180s total)</td>
<td>2000 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
</tr>
<tr>
<td>6½ year Long-term Efficacy of mTSCPC, EGS 2016, Dr. Paul Chew, NUHS(^10)</td>
<td>50s per hemisphere (100s total)</td>
<td>2000 mW</td>
<td>31.3% (0.5 ms duration, 1.1 ms interval)</td>
</tr>
</tbody>
</table>
Summary of MP3 Dosing in the Literature


• Have the physician perform procedure on model eye to gain sense of pace and timing – “When you golf, take a practice swing.”
  • Have the doctor feel the probe head to identify flatter surface and notch/bevel (see “Proper MP3 Probe Positioning” slide)
  • The flatter side goes toward the eye lid; the notch/bevel goes toward the limbus (see “Proper MP3 Probe Positioning” slide)
  • Use the countdown timer on the laser (power set to zero) and have physician perform the technique on the model eye to gain sense of pace and timing
  • Show the Treatment video (NOTE: the video does not replace the hands-on practice on the model eye)
Proper MP3 Probe Positioning

Notch should point to the limbus
Flat Side should face the eyelid
Step-By-Step Treatment Prep

Turn key on → plug-in probe → click “OK” on defaults screen → click “OK” on safety warning screen → click “Preset” → click the desired preset → click “Select” → press “Treat” button
Surgical Items for MP3 Procedure

• Pre-Op
  • Anesthesia
    • Retro or peribulbar block
      • i.e. Dr. Radcliffe uses retrobulbar block of 2% lidocaine without epinephrine
    • Propofol
    • Propofol/Versed/Fentanyl mix
  • Eye lid speculum, adjustable (i.e. Leiberman, Castroviejo, etc.)
    • Physician has option to perform procedure without speculum
Surgical Items for MP3 Procedure

• Pre-Op (cont’d)
  • Lubricant such as Goniovisc, lidocaine gel, BSS, etc.

  • Globe control instrumentation, i.e. Q-tip, forceps, etc.

• Marking pen
  • Meridian marks on globe
  • Marking the notch on the MP3 probe head

• Yellow tape (or other bright color) to identify notch location
Surgical Items for MP3 Procedure

- Post-Op
  - Eye patch, if needed (typically used after Retrobulbar block)

- Anti-inflammatory
  - See “Preferred Postoperative Regimens” slide
  - i.e. Prednisolone acetate 1% (Pred Forte) for 1 – 4 times per day for 1 week, then potentially taper after follow-ups
  - i.e. Durezol 0.5%

- Vasoconstrictor, i.e. phenylephrine, if needed (this is not common)
The gap in care for glaucoma patients – noncompliance with drugs versus invasive surgery

For internal, educational purposes only.
The gap in care for glaucoma patients – noncompliance with drugs versus invasive surgery

Left Handed

Surgeon stands/sits here

Surgeon stands/sits here

For internal, educational purposes only.
What are the Treatment Techniques?

**MicroPulse® P3 Probe (MP3)**

**Placement**
Side view of the MP3 positioned perpendicularly to the surface of the globe.

**Application**
The tip design of the MP3 support a sweeping motion across the superior and inferior hemispheres.

**G-Probe™**

**Placement**
Side view of the G-Probe positioned on the limbus and held parallel to the visual axis.

**Application**
Wedged tip design of G-Probe supports precise placement around the circumference of the limbus.
Post-Op Regimen

- Patch eye if needed.
- Anti-inflammatory (physician may have preferred options)
  - See “Preferred Postoperative Regimens” slide
  - i.e. Prednisolone acetate 1% (Pred Forte) for 1 – 4 times per day for 1 week, then potentially taper after follow-ups
  - i.e. Durezol 0.5%
- Pain medication based on physician preference. Majority do not prescribe any.
- Continue glaucoma medical therapy – adjust based on follow-ups
  - Instill drops prior to patch, or
  - Instill drops the evening of the procedure
### Preferred Postoperative Regimens

<table>
<thead>
<tr>
<th>Dr. Robert Noecker</th>
<th>Dr. Nathan Radcliffe</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Continue glaucoma meds and adjust based on follow-ups</td>
<td>• Continue glaucoma meds</td>
</tr>
<tr>
<td>• Difluprednate drops TID for one week</td>
<td>• Pred Forte QID x 1 wk</td>
</tr>
<tr>
<td>• Then qday for 3 weeks</td>
<td>• Follow-up 2 weeks to start tapering drops</td>
</tr>
</tbody>
</table>
Post-Op Expectations

• POD1
  • Pressure may decrease, remain the same, or increase a few points. Cross reference with Surgical Notes.
  • Inflammation may still be present.
  • Typically the eye is “quiet”.
  • MicroPulse may take up to 1 month to realize full effect.
  • Discuss 1 week follow-up expectations.

• POW1 to 2
  • Expect continued reduction in pressure.
  • Minimal to no inflammation.
  • For patients with minimal to no pressure reduction, reiterate the timing of the MicroPulse effect and evaluate at 1 month.
  • Discuss 1 month follow-up expectations.
Post-Op Expectations

• POM1
  • The MicroPulse effect is likely to be fully realized.
  • If minimal to no pressure reduction, consider retreatment.
  • Global period for TSCPC is 90 days.
### MP3 Case Form – First cases

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Diagnosis</th>
<th>Light/Dark Eye</th>
<th>Laser Settings</th>
<th>Pre-Op IOP</th>
<th>Post-Op IOP</th>
<th>Surgical Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP</td>
<td>POAG</td>
<td>Light</td>
<td>160 secs X 2000mW (80 secs/hemisphere)</td>
<td>32</td>
<td>19</td>
<td>Superior access challenging</td>
</tr>
</tbody>
</table>

- For “Notes”, make sure to notate relevant information that may impact results. For example:
  - # of glaucoma meds
  - Any previous surgeries
  - Any challenges with applying the treatment such as deep set eyes.
  - Any mid-procedure anesthesia modifications, etc.
Sample Procedure Note for EHR

• Treatment name: MicroPulse P3 (or MP3)
• Settings
  • Power: 2000mW
  • Time/Duration: 160 secs total (80 secs per superior and inferior hemisphere)
  • Duty Cycle: 31.3%
Evolving Treatment Paradigm:
Where MicroPulse P3 Fits

MicroPulse P3

Drugs
Trabeculoplasty
MIGS
Traditional Surgery

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